

REMARKS

Claims 1-5 are pending in this application, with claim 1 amended herein. No new matter been added.

In a RESPONSE TO AMENDMENTS section of the office action, the Examiner appears to reject the claims as allegedly containing subject matter not supported by the specification. Though the application and the undersigned strongly disagree with the assertion by the Examiner, and believe that there is support for the language added by the previous amendment, claim 1 is amended herein to expressly recite the same features, but using the exact terminology used in the specification at para. [0035] where the input data strings and the output data strings are described as having separate timings. Withdrawal of the objection is requested.

Next, the office action rejects the claims under 35 U.S.C. § 101 as allegedly directed to non-statutory subject matter. This rejection is respectfully traversed as it is believed that claim 1 as originally filed met the statutory requirements of § 101.

Initially, it is pointed out that the rejection does not specify any basis for the statements contained therein. The Examiner has failed to point to any specific portion of the MPEP or the 2005 Interim Guidelines that provide a basis for the rejection. When called regarding this matter, both the Examiner and his supervisory indicated that this rejection did not originate with them, but rather from a separate § 101 examining body within the USPTO. Regardless, the applicant is entitled to know and understand the basis for the rejection, including either the MPEP, CFR, or Interim Guidelines section relied upon for the interpretation, so that such assertions can be rebutted.

The rejection alleges that a claim, in order to recite patentable subject matter, must “either include a practical/physical application or a concrete, useful, and tangible result.” This is

an improper assertion of the standard for patentable subject matter, there is no “physical application” standard recited in the Interim Guidelines. Physical transformation may be an indicia of a practical application, as recited at § V.C.2.a of the Interim Guidelines, but physical application is not a standard for application described by the Interim Guidelines. Similarly, the office action alleges that there is “no specific limitation/feature in the claim that breathes sufficient life and meaning into the preamble so as to limit it to a particular practical application rather than being so broad and sweeping to cover every substantial practical application of the idea embodied therein.” Again, this is not a standard outlined by the Interim Guidelines. Rather, this appears to be a co-opting of the standard for a preamble to be considered as part of the elements of the claims for patentability purposes, and the preemption doctrine. Such a combination of standards from disparate inquiries of patentability is improper and not supported by the Interim Guidelines, the MPEP or any other source cited by the Examiner.

The proper standard for interpretation of the claims under the Interim Guidelines requires first for the Examiner to make a determination of whether the claim falls within one of the four enumerated categories of 35 U.S.C. § 101. (Interim Guidelines § V.B). It is respectfully submitted that the instant claims as recited in claim 1 fall within § 101 in that they recite at least a machine or manufacture. As further clarified by the Interim Guidelines, “[t]he burden is on the USPTO to set forth a prima facie case for un-patentability.” *Id.* Without even an assertion as to how the instant claims fall outside of the enumerated categories, it is submitted that the Examiner has failed to meet his burden. The claims include express recitations of physical features including processors, data memory, and a digital filter. Thus the claims clearly meet the statutory requirements of § 101.

The Interim Guidelines also clarify that if the claims do not define subject matter that is patentable, but the written description does, the Examiner “should reject the claims..., but identify the features of the invention that would render the claimed subject matter statutory if recited in the claim.” (Interim Guidelines § V.B). There is no such information provided by the Examiner in the office actions. To the extent this rejection is maintained, provision of such information is requested.

It is submitted that the Interim Guidelines specify that simply meeting one of the § 101 enumerated categories does not end the inquiry, as such claims may still be directed to judicial exceptions to patentability. Claims that recite “nothing more than abstract ideas (such as mathematical algorithms), natural phenomena, and laws of nature are ... excluded from patent protection.” (Interim Guidelines V.C). The office action appears to allege that the filtering recited in the instant claims is a mathematical algorithm. (Office Action, para. 4). However, as there is no identification as to what the mathematical algorithm is other than cursory reference to the recited “predetermined order,” it remains unclear what feature of the claims the Examiner contends is the algorithm.

Assuming the predetermined order to be what the Examiner alleges to be the “mathematical algorithm,” the Examiner is initially reminded that it is improper to “dissect,” the claimed invention into discreet elements and to evaluate the elements in “isolation,” but rather the claim must be considered as a whole. (Interim Guidelines § C). It is believed that by extracting the term “predetermined order,” from the remainder of the claim, the instant rejection is based on an analysis that is expressly forbidden by the Interim Guidelines. And thus the rejection should be withdrawn.

Further, it is submitted that the recited “predetermined order” for reading out input data strings from the input data memory is not a mathematical algorithm. Taken as a whole the digital filter element of the instant claims merely indicates that there is an order for reading data strings from the memory, that the order is different from the order in which those data strings are produced, and that the order for reading out the data strings is “predetermined.” The office action provides no explanation as to how an “order” can be considered a mathematical algorithm. The claims do not include an express statement of what the “predetermined order” is, only that it is different from the order in which the data strings are generated. Accordingly, when read as a whole, as is required in considering § 101 rejections, the claim does not recite a mathematical algorithm, and the claim is not directed to a judicial exception. Thus the rejection has been improperly formulated and should be withdrawn.

Even if the predetermined order were a mathematical algorithm, this alone would not be reason for rejection the claim as directed to non-patentable subject matter. As pointed out by the Interim Guidelines, “[i]t is now commonplace that an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.” (Interim Guidelines at V.C.1, quoting *Diamond v. Diehr*, 450 U.S. 175, 187 (1981)). The office action alleges, without any actual analysis, that the claimed invention does not meet the Interim Guidelines so called “useful, concrete, and tangible result” test. The Interim Guidelines require satisfaction of this test to demonstrate “Practical Application” when it has been determined that a claim is directed to a judicial exception, and when there is no physical transformation. (Interim Guidelines § V.C.2b). Thus, even if a claim is directed to the use of a judicial exception, the claim may nonetheless recite patentable subject matter when the claim meets the test, as the instant claims do.

The instant claims meet the utility requirement by reciting a digital filter device. Digital filters are “indispensable for general fields of technology such as communications and controls.” And specifically, for the claimed invention, digital filters able to change the timing of the reading out of the data strings as compared to the timing of the generation of the data strings facilitates the controlling of the number of input data strings (channels) which heretofore had not been thought possible in instances of, for example, 1000 channels, and to do so at a reduced cost, energy consumption, size of device, and cost. (See Application at paras. [0023, 0024, 0075]). Accordingly, as clarified by the specification, the claimed invention is useful.

As to tangible result, the order of the data strings is clearly tangible. The predetermined order does not reference the underlying data at all but rather the order in which the data is read from the memory. By the very description that the order is “predetermined,” it must be tangible as the only guidance provided by the Interim Guidelines of something that is not tangible is that it is “abstract.”. (Interim Guidelines § V.C.2b(1)) A predetermined order is not abstract, but something that is set and, as described above, set at a specific time, that time being before the reading out of the data string. Further, the claim recites a tangible result, namely the generation of output data strings in the predetermined order. Accordingly, the “predetermined order” is clearly tangible.

As to concrete, by setting the predetermined order, the timing of the reading out of the data strings will always be the same for that predetermined order. Thus there is no reason to conclude that the reading out of the data strings is not repeatable. The only question is the order, once that is predetermined as required by the claim, the reading out will occur each time in that order.

Finally the Interim Guidelines require determination of whether the claim preempts all use of the abstract idea, law of nature, or natural phenomenon. The question here is whether the claims seek to “patent a process that comprises every ‘substantial practical application’ of an abstract idea.” (Interim Guidelines § V.C.3, quoting *Gottschalk v. Benson*, 409 U.S. 63, 71-72 (1972)). Examples provided by the Interim Guidelines include a computer that solely calculates a mathematical formula or a computer disk that solely stores a mathematical formula. The instant claims do not seek to preempt any mathematical formula or abstract idea. As explained above, all claim 1 doesn’t even recite a mathematical algorithm or formula. At best the claims recite an order of operations for the digital filter wherein data strings are read out in an order which has been determined previously and the is different from the order in which the data strings were generated. There is no mathematical formula present in the claims, nor is there an abstract idea that could “pre-empt” such use by others.

Not the least support for the failure of the claim to recite a mathematical formula or abstract idea is the failure of the Examiner to properly meet the requirements of the Interim Guidelines, which require the Examiner to “identify the abstraction, law of nature, or natural phenomenon and explain why the claim covers every substantial practical application thereof.” There is simply nothing in the office action that specifically points out what the abstraction or mathematical formula is, and there is further nothing which explains why it pre-empts others.

Accordingly, based on the foregoing, it is submitted that the Patent Office has failed to conduct the inquiry required by the Interim Guidelines to determine whether claims meet the statutory requirements of 35 U.S.C. § 101. What is more, it is submitted that upon proper review of these guidelines, as presented herein, the claims do indeed recite patentable subject matter and withdrawal of the rejection under 35 U.S.C. § 101, is requested.

On the merits, the office action rejects claims 1-5 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,805,129 to David.

It is respectfully submitted that a digital filter in claim 1, as amended, is not taught by David because the digital device of David fails to read the input data strings out of the input data memory in a predetermined order which has a separate timing than the data string generating timing, to be filtered and for generating output data strings.

As best understood, David describes a two-dimensional space filter of $n \times m$ positioned in front of a compression circuit for reducing aliasing due to image compression, in which the image data is a data (e.g. voice data) per a single screen that is different from a plurality of input data as a feature of the present invention. Also, David temporarily stores intermediate words filtered in the process of a small pixel block of $n \times m$ within a single screen, and changes filtering coefficients according to instructions from the upper application (e.g. video camera) or switches the intermediate words.

On the other hand, the present invention makes it possible to process sequential plural data with individual filtering coefficients where the present invention need not depend upon or is not influenced by data quantity such as $n \times m$ like David.

Thus, by separating the timings at the input data memory, namely by separating the timings before the memory, at the digital filter, and after the filter, each channel data outputted from the filter at the same interval is not effected by variation of the filtering time. Thus the filtering order can be changed at will, the filtering can be uninterruptedly done to sequential data such as voice data, and individual filtering of all of the channels are made possible by changing the filtering coefficients. Accordingly, claim 1 is believed to be patentable over David under 35 U.S.C. 102(b).

In view of the remarks set forth above, this application is in condition for allowance

which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,

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